

Docket No. 045-102

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of :
:
URS (NMI) REUTELER ET AL. : Confirmation No.: 5960
:
Serial No.: 10/532,528 : Group Art Unit: 3721
:
National Stage of PCT/US03/034067 : Examiner Christopher Harmon
:
Filed: October 7, 2005 :
:
For: **CARTON FEEDING AND FORMING MACHINE WITH SELECTIVELY
ACTUATED LUGS AND RELATED METHODS**

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appeal is taken from the rejection of pending claims made in the final Office Action of August 27, 2008. No claim has been allowed. A timely Notice of Appeal was filed on November 21, 2008. Please debit any fee due from Deposit Account 11-0978.

I. REAL PARTY IN INTEREST

The real party in interest is Kliklok Corporation ("Appellant"), a Delaware corporation having an address of 5224 Snapfinger Woods Drive, Decatur, Georgia 30035.

II. RELATED APPEALS AND INTERFERENCES

Appellant is concurrently appealing the rejections of the claims in continuing application Ser. No. 11/872,409, which claims priority to the present application.

III. STATUS OF THE CLAIMS

Pending claims 1-6, 9, 106-109, and 111-113 are the subject of this appeal. Claims 7-8, 16-18, 20-105, and 110 are cancelled, and claims 10-15 and 19 are withdrawn.

IV. STATUS OF AMENDMENTS

The form of the claims for purposes of this appeal is as presented in an amendment submitted after the final Action but prior to filing this Appeal Brief. Entry of the amendment has not yet been made, but is expected as the changes are formal in nature. For the convenience of the Board, a copy of the pending claims reflecting the changes made by the amendment as filed appears in the attached Claims Appendix.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The inventions of the independent claims are concisely summarized in the following manner. Claim 1 relates to a machine 10 for conveying a carton C having a first end and a second end and including a lid L having at least one flap F_3 adjacent the first end of the carton C along a conveying path in a first, substantially horizontal plane (p. 15, ll. 13-19). The machine 10 includes a support surface 78, S for supporting the carton during movement along the conveying path (Figs. 5a and 12).

An overhead conveyor 14 is positioned above a first portion of the support surface 78 (p. 16, line 26 to p. 17, line 2; p. 23; ll. 5-8 and Fig. 5a). The overhead conveyor 14 is for conveying at least one first lug 32 selectively movable from a retracted position above the support surface 78 to a depending position 32' along a forward run L of the overhead

conveyor 14 and in the conveying path (p. 17, ll. 6-10; p. 19, ll. 2-4; Fig. 3a). The lug 32 in the depending position 32' is arranged for engaging the first end of the carton C adjacent the at least one flap F_3 and conveying the carton C from an infeed end of the overhead conveyor 14 in a first direction along the support surface 78 in the first plane to an outfeed end of the overhead conveyor (Fig. 3a and p. 19, ll. 5-9; p. 27, ll. 3-6).

A takeaway conveyor 16 is positioned adjacent a second portion of the support surface S and the outfeed end of the overhead conveyor 14 for conveying at least one second lug 132. The second lug 132 is selectively movable from a retracted position below the support surface S to an upstanding position 132' along a forward run U of the takeaway conveyor 16 and in the conveying path (Fig. 11). The second lug 132 in the upstanding position 132' is arranged for engaging the second end of the carton C received from the outfeed end of the overhead conveyor 14 (p. 28, ll. 24-28). The second lug 132 conveys the carton C in a second direction along the support surface S in the first plane, which second direction is generally perpendicular to the first direction (p. 28, ll. 14-16).

Finally, the claim requires "means for folding the at least one flap while the carton is conveyed along the path by the takeaway conveyor." The structure corresponding to this means along the takeaway conveyor 16 includes a stationary plow 192 and roller wheels 196 (p. 29, ll. 19-21 and Figs. 9-10).

Claim 107 relates to an apparatus 10 for conveying a carton C including a lid L having at least one flap F_1 , F_2 , or F_3 (p. 15, ll. 13-19). The apparatus 10 comprises a conveyor assembly including a support surface 78, S for supporting the carton C and creating a conveying path having an L-shape in plan view (Fig. 12). The conveyor assembly comprises an overhead conveyor 14 overlying a first portion of the support surface 78 extending in a first direction and including at least one first lug 32 mounted to a first endless chain 30 for selectively pivoting relative to the first endless chain from a retracted position above the support surface to a depending position 32' in the conveying path for engaging a first end of

the carton C and conveying the carton along the first leg of the L-shaped path from an infeed end of the overhead conveyor 14 to an outfeed end (p. 17, ll. 3-4; p. 18, ll. 9-10; Fig. 3a).

A takeaway conveyor 16 is provided adjacent a second portion of the support surface S and the outfeed end of the overhead conveyor 14 for conveying at least one second lug 132 (p. 28, ll. 24-28). The second lug 132 is mounted to a second endless chain 108 for selectively pivoting from a retracted position to an upstanding position 132' for engaging and conveying the carton C conveyed by the at least one first lug 32 of the overhead conveyor 14 to the outfeed end of the overhead conveyor 14 in a second direction along the second portion of the support surface S (p. 28, ll. 24-28 and Fig. 12). The second direction is generally perpendicular to the first direction (p. 28, ll. 14-16 and Fig. 12). A folder 86, 92 or 192 is also provided for folding the at least one flap F₁, F₂, or F₃ while the carton C is conveyed (p. 26, ll. 10-13 and p. 29, ll. 19-21).

Claim 109 recites an apparatus 10 for conveying a carton C including a lid L having at least one flap F₁, F₂, or F₃ (p. 15, ll. 13-19). The apparatus 10 comprises a support surface 78, S for supporting the carton C and creating a conveying path having an L-shape in plan view with a first portion generally perpendicular to a second portion (Fig. 12).

The apparatus 10 further includes “means for conveying the carton along the first portion of the support surface from a first end of the first portion of the support surface to a second end of the support surface.” Structurally, and as clearly linked or associated by dependent claim 111, this means may comprise an overhead conveyor 14 adjacent a first portion of the support surface 78 extending in the first direction and including at least one first lug 32 mounted to a first endless chain 30 for selectively pivoting relative to the first endless chain from a retracted position above the support surface to a depending position 32 in the conveying path for engaging a first end of the carton C and conveying the carton C along the first leg of the L-shaped path from an infeed end of the overhead conveyor 14 to an outfeed end thereof (p. 17, ll. 3-4; p. 18, ll. 9-10; Fig. 3a).

Claim 109 further requires “means for conveying the carton delivered to the second end of the first portion of the support surface along the second portion of the support surface,” which is disclosed structurally as a takeaway conveyor 16 (see, e.g., claim 112). The takeaway conveyor 16 includes at least one second lug 132 (p. 28, ll. 24-28) mounted to a second endless chain 108 for selectively pivoting from a retracted position to an upstanding position 132' for engaging and conveying the carton C in a second direction along the second portion of the support surface S (p. 28, ll. 24-28 and Fig. 12).

This claim further requires “means for folding the at least one flap while the carton is conveyed.” The corresponding structure disclosed is a folder 92, 192 and roller wheels 96, 196 for folding the at least one flap F_1 , F_2 , or F_3 while the carton C is conveyed (p. 26, ll. 10-13 and p. 29, ll. 19-21), or a rotatable star wheel 86 (p. 24, ll. 11-17 and Figs. 6b-6e).

Finally, claim 113 recites a machine 10 for conveying a carton C including a lid L having at least first and second flaps F_1 , F_2 , or F_3 along a conveying path in a first, substantially horizontal plane (p. 15, ll. 13-19). The machine 10 comprises a support surface 78, S for supporting the carton C during movement along the conveying path (p. 17, ll. 3-4; p. 18, ll. 9-10; Fig. 5a; p. 28, ll. 24-28 and Fig. 12). An overhead conveyor 14 overlies a first portion of the support surface 78, and includes at least one first lug 32 selectively movable from a retracted position to a depending position 32' for engaging and conveying the carton C in a first direction along the support surface 78 (p. 17, ll. 3-4; p. 18, ll. 9-10; Fig. 3a).

A takeaway conveyor 16 adjacent a second portion of the support surface S is provided for conveying at least one second lug 132 selectively movable from a retracted position to an upstanding position 132' for engaging and conveying the carton in a second direction along the path, said second direction being generally perpendicular to the first direction (p. 28, ll. 14-28 and Fig. 12). A first folder 86 is provided for folding at least the first flap F_1 while the carton C is conveyed along the first portion of the support surface 78 by the overhead conveyor 14 (p. 26, ll. 10-13). A second folder 192 is also provided for

folding at least the second flap F_2 or F_3 while the carton is conveyed along the second portion of the support surface S by the takeaway conveyor 16 (p. 29, ll. 19-21).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The rejection of claims 109 and 111-112 under 35 U.S.C. Section 112, 2d paragraph.

The rejection of claims 109 and 112 as anticipated under 35 U.S.C. Section 102(b) by U.S. Patent No. 3,187,482 to Steele ("Steele").

The rejection of claims 1-6, 9, 106-108, 111, and 113 as obvious under 35 U.S.C. Section 103(a) in view of Steele.

The rejection of claims 1-6, 9, 106-108, 111 and 113 as obvious under 35 U.S.C. Section 103(a) in view of Steele and U.S. Patent No. 5,501,318 to Disrud ("Disrud").

The rejection of claims 4 and 107-108 as obvious under 35 U.S.C. Section 103(a) in view of Steele and U.S. Patent No. 5,638,659 to Moncrief et al. ("Moncrief").

VII. ARGUMENT

A. CLAIMS 109 AND 111-112 ARE DEFINITE

The Examiner rejects claims 109 and 111-112 because they allegedly run afoul of Section 112, second paragraph. According to the Examiner:

The "support surface for supporting the carton" is not contiguous as one would be ordinarily led to believe by claiming multiple portions of the same surface and then creates confusion how one portion of the surface overlies the other transverse portion. The examiner takes note that the terminal end of the overhead conveyor overlies the infeed end of the transverse takeaway conveyor, however is not sure how the overlying portion of the overhead conveyor is part of a "support surface for supporting the carton" as the cartons are conveyed by lugs along a surface below the overhead conveyor; as shown in applicant's figure 3a.

As stated in the Manual of Patent Examining Procedure, "[a]cceptability of the claim

language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.” MPEP § 2173.05(b). Accordingly, it does not matter if the phrase, when read in a vacuum, might have a different meaning to different individuals based on different interpretations. Instead, it matters whether a skilled artisan would fail to understand what is claimed upon reviewing the accompanying specification.

Appellant respectfully submits that the claim language is perfectly definite, and readily understandable by a skilled artisan. The Examiner’s “interpretation” of the language is, at best, strained. First of all, the claim does not say that the “support surface” is “not contiguous,” as is contended, nor need it do so to render the claim definite. A carton can be conveyed along either a contiguous or a non-contiguous conveying surface.

Secondly, claim 109 never states that any “portion” of a surface overlies another portion of any surface, as the Examiner contends. Rather, it requires “*said* means for conveying along the first portion of the support surface at least partially overlying the second portion of the support surface” (emphasis added). This arrangement is as clearly shown in Appellant’s specification (see, e.g, Fig. 12), and can only be interpreted in the obtuse manner proposed by the Examiner if the rules of grammar are ignored. Hence, the Examiner’s rejection is not based upon the actual language of the claim as understood in light of the specification, and therefore cannot constitute the reasonable interpretation necessary for proper examination of a patent claim. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827 (Fed. Cir. 2004) (holding that the broadest reasonable interpretation must be based on the claim language read “in light of the specification as it would be interpreted by one of ordinary skill in the art.”).

Finally, the Examiner is “not sure how the overlying portion of the conveyor is part of a ‘support surface for supporting the carton.’” Again, claim 109 in no way requires that an “overlying portion of the conveyor” is “part of” any support surface. Hence, the rejection lacks a sound basis in fact.

For the foregoing reasons, a *prima facie* rejection under Section 112, second paragraph, has not been stated against claims 109 and 111-112. Reversal is thus in order.

B. CLAIMS 109 AND 112 ARE NOT ANTICIPATED BY STEELE

Substantively, it is contended that claims 109 and 112 are “anticipated” by U.S. Patent No. 3,187,482 to Steele. In order for these rejections to be proper, Steele must expressly or inherently disclose the exact same inventions, arranged precisely as required in these claims. See *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (“The identical invention must be shown in as complete detail as is contained in the...claim.”). Moreover, it is axiomatic that “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The possibility, or even probability, that the claimed structural arrangement exists in a reference is inadequate to meet the “strict identity” requirement for a proper anticipation rejection. See *Continental Can Company USA v. Monsanto Company*, 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991) (holding anticipation “may not be established by probabilities or possibilities”).

In making this rejection, the Examiner states as follows:

Steele discloses a machine for folding boxes comprising lug conveyors c and e in an L-shaped plan; see figure 1 with a takeaway conveyor comprising parallel conveyor chains h,i, 168, and 169 located adjacent and perpendicular to one another; folding means/stationary plows 57 and rollers j, k for first and second flaps respectively; adhesive applicator means n; see figure 1. Lugs are considered retracted and upstanding to selectively engage conveyors.

Even accepting the foregoing as true, Steele does not disclose that the alleged “means for conveying” is “overlying” any “second portion” of a support surface along which a lugged conveyor also conveys objects, as the claim expressly requires. As Steele does not disclose this limitation of claim 109, it cannot disclose the exact same invention of this claim or its dependent claims for purposes of an anticipation rejection under Section 102(b).

Furthermore, claim 109 requires “means for conveying the carton along the first

portion of the support surface.” The Examiner has made no findings as to the structure disclosed in the specification for performing this function, as required by Office procedure. See MPEP § 2181 (“the ‘broadest reasonable interpretation’ that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO *may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination.*”) (emphasis added). If the prior art does not perform the identical function recited, or does so using non-identical or non-equivalent structures, then a proper rejection cannot lie. *McGinley v. Franklin Sports Inc.*, 60 USPQ2d 1001 (Fed. Cir. 2001) (“in the context of a means-plus-function claim, the . . . prior art must disclose not simply a means for achieving the desired function, but rather the particular structure recited in the written description corresponding to that function, or an equivalent thereof.” (citing *In re Donaldson Co., Inc.*, 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1849 (Fed. Cir. 1994))). Accordingly, reversal of the rejection of claims 109 and 112 is in order, since a *prima facie* case of anticipation has not been set forth based on a proper interpretation of these claims.

B. CLAIMS 1-6, 9, 106-108, 111, AND 113 ARE NOT OBVIOUS IN VIEW OF STEELE

Claims 1-6, 9, 106-108, 111, and 113 stand rejected as obvious under Section 103(a) of the Patent Act in view of Steele. To reject properly claims under 35 U.S.C. § 103, “the examiner bears the initial burden of presenting a *prima facie* case of obviousness.” *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). In doing so under current Office procedures, evidentiary support for a reason for combining two references is a requirement of a *prima facie* case of obviousness. See Memorandum of Margaret A. Focarino, Deputy Commissioner for Patent Operations, May 3, 2007 (“in formulating a rejection under 35 U.S.C. 103(a) based upon a combination of prior art elements, **it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed . . .**”)

(emphasis added). Indeed, current Supreme Court precedent recognizes that the ability to “merely demonstrat[e] that each of its elements was, independently, known in the prior art” is insufficient to establish obviousness. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398; 127 S. Ct. 1727, 167 L. Ed. 2d 705 (U.S. 2007) (holding that obviousness cannot be proven **“merely by demonstrating that each of its elements was, independently, known in the prior art”**) (emphasis added). Rather, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements.” *Id.* at 1741. A proper “reason” must also have a rational underpinning, which must be articulated in the record. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)).

In making the instant rejection, the Examiner admits that, in Steele, the “first conveyor c is not directly disclosed as an overhead conveyor however Steele notes that containers are fed from the closing apparatus ‘upon a lugged link belt or other appropriate conveyor c.’” Again, even if this characterization of Steele’s teachings is correct, absolutely no mention is made of the claimed overhead conveyor (which is expressly admitted by the Examiner), nor does the Action supply any reason as to why such an overhead conveyor would be used in the Steele arrangement. Thus, a *prima facie* case of obviousness is lacking.

Claim 2 also stands rejected over Steele. This claim requires that the first lug of the overhead conveyor is **pivotally mounted** to a conveyor chain for moving between **a retracted position overlying a portion of the support surface** and the depending position. Nowhere does Steele mention any “pivotally mounted” lugs, and the Examiner does not contend otherwise, or supply any reason for providing such in the Steele arrangement. Hence, reversal of the rejection of this claim is in order.

Also rejected as “obvious” is claim 3, which requires that a “second lug” is pivotally

mounted to each of a pair of conveyor chains. Even assuming for the sake of argument that the belts of Steele qualify as the claimed generally parallel chains, no mention is made of any “pivotally mounted” lugs. Accordingly, a *prima facie* obviousness rejection is lacking with respect to the invention of claim 3, and reversal of the rejection is in order.

Claim 4 requires that “each second lug” of claim 4 is “a pop-up lug movable between a retracted position below the conveying path and an upstanding position.” No lugs associated with the allegedly “parallel” chains in Steele “pop-up” between a retracted position “below the conveying path” and an upstanding position. A *prima facie* case of obviousness is lacking with respect to this claim as well.

In rejecting claim 5, the Examiner takes “Official Notice” that “rotatable wheels with radially extending projections are well known in the art for closing flaps.” Appellant agrees. Regardless, no reason is provided as to why it would be “obvious” to use such a rotatable wheel in the arrangement claimed. Rather, all the Examiner has done is “merely demonstrat[e] that each of its elements was, independently, known in the prior art,” which is clearly insufficient to establish obviousness. *See KSR Int’l Co., supra*. The Examiner also completely ignores the requirement that the closing of the flap using the wheel, according to the express language of the claim, is done “before or during the engagement of the carton by the depending lug of the overhead conveyor.” Thus, a *prima facie* case of obviousness has not been established, and reversal of the rejection of claim 5 is in order.

Claim 106 requires that “a portion of the overhead conveyor overlies a portion of the takeaway conveyor.” In rejecting this claim, the Examiner states that “the conveyor c” of Steele “extends beyond” the takeaway conveyor e” and “therefore an overhead conveyor in the same position would overlie the other as claimed.” First of all, Appellant again notes that Steele does not disclose the claimed overhead conveyor, and no reason is provided for so-modifying the reference to arrive at the invention of this claim. Secondly, that the takeaway

conveyor “c” extends beyond conveyor “e” (which is not even an accurate statement) does not mean that the two would “overlie” each other. Hence, the statement of rejection relies on a *non sequitur*, and cannot be sustained.

Claim 107 requires not only the “overhead conveyor,” but also that the lugs it carries are “for selectively pivoting relative to the first endless chain from a retracted position to a depending position for engaging and conveying the carton along the first leg of the L-shaped path.” No overhead conveyor is even remotely mentioned in Steele, let alone one having the claimed pivoting lugs. Thus, a *prima facie* case of obviousness is lacking with respect to this claim and claim 108 depending from it (which further requires that the overhead conveyor overlie a portion of an orthogonal support surface, which is in no way disclosed, taught, or suggested by the Steele reference).

Claim 113 recites the overhead and takeaway conveyor configuration, including a first folder for folding a first flap of the carton while conveyed by the overhead conveyor and a second folder for folding a second flap of the carton while conveyed by the takeaway conveyor. The conveyor c of Steele allegedly forming the “overhead” conveyor is not associated with any folder whatsoever. Accordingly, the Examiner has not set forth a proper basis for rejecting this claim as obvious in view of Steele or any other substantial evidence in the record.

C. CLAIMS 1-6, 9, 106-108, 111 AND 113 ARE NOT OBVIOUS OVER STEELE AND DISRUD

In formulating this rejection, the Examiner admits that, referring to Steele:

The first conveyor c is not directly disclosed as an overhead conveyor however Steele notes that containers are fed from the closing apparatus “upon a lugged link belt or other appropriate conveyor c” (column 3, lines 56+). Disrud provides an overhead lugged conveyor for conveyance of packaging materials along a surface; see figure 1. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the overhead conveyance system of Disrud in the invention to Steele for providing the cartons along the first portion of the surface.

Thus, the Examiner expressly admits that there is absolutely no mention of the claimed overhead conveyor of claim 1 in Steele, but instead relies on Disrud for this teaching.

Respectfully, “providing the cartons along the first portion of the surface” is not a reason for combining the teachings of the references based on any rational underpinning. Indeed, it completely overlooks the fact that Disrud already “provides” support for objects along a first portion of a support surface. Again, as noted above, obviousness of an invention cannot be proven “merely by demonstrating that each of its elements was, independently, known in the prior art” *KSR, supra*. That is all the present Examiner has done, so reversal of the rejection of claims 1-6, 9, 106-108, 111 and 113 based on the combination of Steele and Disrud is in order.

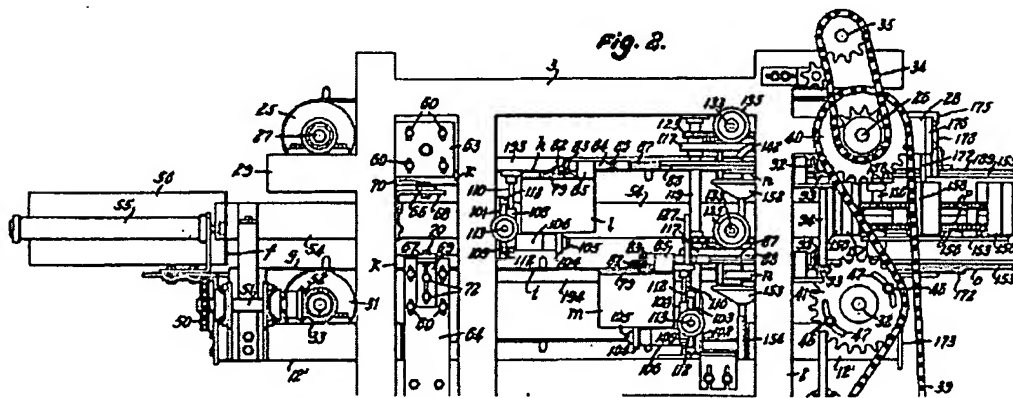
The Examiner also states on page 6 of the final Action that “[o]ne of ordinary skill would have been fully capable of looking to Disrud for a conveyor of a known type to be used in the inventor to Steele” However, the “mere statement that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness.” MPEP § 2143.01. If stating that a skilled artisan is capable of arriving at the claimed invention is not sufficient to prove obviousness, then certainly stating that a skilled artisan would be “*capable of looking*” to a reference cannot support a *prima facie* case, either.

Claim 4 requires that “each second lug” of claim 4 is “a pop-up lug movable between a retracted position *below* the conveying path and an upstanding position” (emphasis added). This structure is not shown anywhere in Steele or Disrud. Indeed, Disrud discloses exactly the opposite of what is claimed. The Examiner does not contend otherwise, or explain why the claimed invention would be obvious, so reversal of the rejection of claim 4 is in order.

Claim 106 requires that “a portion of the overhead conveyor *overlies* a portion of the takeaway conveyor,” which is for conveying cartons in a second, perpendicular direction.

Advantageously, this arrangement allows for the lugs of the overhead conveyor to cross into the conveying path of the takeaway conveyor, thus ensuring that the cartons are delivered with the correct registration, just in time for being conveyed away by the lugs of the takeaway conveyor. This is contrasted with the past approach where delivering of a carton from one lugged conveyor to another running in the same orientation relied on either the momentum of the carton or a separate transfer device (such as the pusher plate *f* of Steele), both of which lack the accuracy, simplicity, and reliability afforded by the Appellant's novel and unobvious approach.

Again, Steele does not disclose the claimed overhead conveyor, and no reason with a rational underpinning is articulated for so-modifying the reference to arrive at the invention of this claim. Indeed, Steele could not even accommodate an overhead conveyor in the claimed manner, since the second conveyor "i" already includes an aligned, overhead conveyor "h":



This conveyor "h" would thus prevent the proposed modification, and removing this conveyor would render the arrangement of Steele unsatisfactory for its intended purpose (which is inimical to a finding of obviousness; see MPEP §2143.01 ("The proposed modification cannot render the prior art unsatisfactory for its intended purpose")). Disrud does not disclose any overhead conveyor that overlies a portion of an takeaway conveyor for conveying in a second direction, either. The combined teachings of the references thus cannot possibly lead a

skilled artisan to the claimed invention, or provide the concomitant benefits and advantages, and the Examiner has not established to the contrary. Hence, the rejection of the invention of claim 106 as obvious should not be sustained.

Claim 107 requires not only the “overhead conveyor,” but also that the lugs it carries are “for selectively pivoting relative to the first endless chain from a retracted position to a depending position for engaging and conveying the carton along the first leg of the L-shaped path.” The claim further requires lugs attached a second endless chain for selectively pivoting relative to the second endless chain from a retracted position to an upstanding position for engaging and conveying the carton.

This invention allows for the lugs of the takeaway conveyor to be selectively actuated, just in time for conveying away by the carton delivered by the overhead conveyor. This provides significant benefit in terms of throughput and efficiency, as delivery of the carton by the overhead conveyor need not be timed to avoid crashing into a passing fixed lug of the takeaway conveyor, or instead have a delay result while waiting for a fixed lug to “catch up” and sweep the carton away. Relative timing of the chains carrying the lugs is thus completely eliminated. A remarkable increase in throughput, efficiency, and reliability thus results.

Neither Steele nor Disrud, whether considered alone or in combination, even remotely contemplate Appellant’s claimed approach to a machine for effecting carton folding and forming. No overhead conveyor is even remotely mentioned in Steele, let alone one having the claimed pivoting lugs. Indeed, Steele actually requires a feeder plate f for transferring the cartons in timed relation to the corresponding conveyor h (see col. 5, lines 54-58, “when a lugged link of the conveyor belt approaches its position to pick up a carton from the dead plate g the pusher plate will be advanced to push a carton into the proper position”), which structure Appellant’s invention completely avoids with pivoting lugs that can be selectively actuated to sweep the carton away (or left in a retracted position so as to not interfere with the carton). Disrud does not disclose, teach, or even remotely mention conveying in orthogonal

directions, let alone overhead and takeaway conveyors with selectively actuated lugs capable of working in concert to facilitate a remarkable increase in throughput in a carton forming and feeding machine. Thus, a *prima facie* case of obviousness is lacking with respect to this claim and claim 108 depending from it.

Claim 113 recites the overhead and takeaway conveyor configuration, including a first folder for folding a first flap of the carton while conveyed by the overhead conveyor and a second folder for folding a second flap of the carton while conveyed by the takeaway conveyor. The conveyor c of Steele allegedly forming the “overhead” conveyor is not associated with any folder whatsoever. The Examiner does not identify this structure in Disrud, or otherwise explain why it supplies the missing teaching that would render the invention of claim 113 obvious. As noted above, merely identifying the existence of certain elements in the prior art is insufficient to support a proper rejection based on obviousness. Reversal of the rejection of claim 113 is thus appropriate.

D. CLAIMS 4 AND 107-108 ARE NOT OBVIOUS IN VIEW OF STEELE AND MONCRIEF

As an alternative ground of rejection, the Examiner combines the teachings of Steele with those of Moncrief to conclude that the inventions of claims 4, 107, and 108 are obvious. In making the rejection, the Examiner contends that the lugs of Steele “pop-up/pivot into and out of the conveying path via rotation,” and further that “pop-up lugs 63 are known in the art” as evidenced by Moncrief. Thus, it allegedly would have been “obvious . . . to use pop-up lugs as taught by Moncrief in the invention to Steele in order to further the transport of the containers when desired.”

The Examiner’s statement is internally inconsistent. If Steele teaches pop-up lugs, then it is unclear why a skilled artisan would even use the “pop-up lugs as taught by Moncrief et al. . . . to further the transport of the containers.” Moncrief is *already capable* of transporting “containers.” Furthermore, “transporting the containers when desired” is not an articulated reason based on a rational underpinning necessary to sustain a proper obviousness rejection

based on the combined teachings of two references. *See KSR Int'l Co., supra* (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). Accordingly, reversal is in order.

Claim 4 by virtue of its dependency on claim 1 and claims 107-108 require lugs capable of “selectively pivoting . . . from a retracted position to a depending position” for engaging the carton. Neither Steele nor Moncreif disclose any lugs in a depending position for engaging and conveying anything. Claim 108 further requires that “the overhead conveyor at least partially overlies the second portion of the support surface,” which is orthogonal to a first portion, a feature found in neither of the cited references or otherwise (and, in fact, contraindicated by the teachings of Steele). Thus, there is no substantial evidence in the record supporting the rejections of claims 4 and 107-108 based on the Steele and Moncreif references. Accordingly, reversal of the rejections of these claims is also in order.

E. CONCLUSION

In summary, Appellant has addressed and met every rejection set forth in the last Office Action and submits that all of the rejected claims meet the statutory requirements for patentability. Thus, it is respectfully requested that all outstanding rejections of all claims be reversed and that the present application be remanded to the Examiner with instructions for immediate allowance.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

The claims on Appeal read as follows:

1. (Previously Presented) A machine for conveying a carton having a first end and a second end and including a lid having at least one flap adjacent the first end of the carton along a conveying path in a first, substantially horizontal plane, comprising:

a support surface for supporting the carton during movement along the conveying path;

an overhead conveyor positioned above a first portion of the support surface, said overhead conveyor conveying at least one first lug selectively movable from a retracted position above the support surface to a depending position along a forward run of the overhead conveyor and in the conveying path, said lug in the depending position being arranged for engaging the first end of the carton adjacent the at least one flap and conveying the carton from an infeed end of the overhead conveyor in a first direction along the support surface in the first plane to an outfeed end of the overhead conveyor;

a takeaway conveyor positioned adjacent a second portion of the support surface and the outfeed end of the overhead conveyor for conveying at least one second lug selectively movable from a retracted position below the support surface to an upstanding position along a forward run of the takeaway conveyor and in the conveying path, said second lug in the upstanding position being arranged for engaging the second end of the carton received from the outfeed end of the overhead conveyor and conveying the carton in a second direction along the support surface in the first plane, said second direction being generally perpendicular to the first direction; and

means for folding the at least one flap while the carton is conveyed along the path by the takeaway conveyor.

2. (Previously Presented) The machine according to claim 1, wherein the first lug is pivotally mounted to a conveyor chain for moving between the retracted position overlying the support surface and the depending position.

3. (Previously Presented) The machine according to claim 1, wherein the takeaway conveyor includes a pair of generally parallel conveyor chains, each including at least one second lug, wherein each at least one second lug is pivotally mounted to the corresponding conveyor chain.

4. (Original) The machine according to claim 3, wherein each second lug is a pop-up lug movable between a retracted position below the conveying path and an upstanding position.

5. (Previously Presented) The machine according to claim 1, further including a rotatable wheel having at least one radially extending projection for at least partially closing the at least one flap before or during the engagement of the carton by the depending lug of the overhead conveyor.

6. (Previously Presented) The machine according to claim 1, wherein the means for folding the at least one flap includes a first stationary plow and at least one roller wheel for completing the folding in association with the plow.

7.-8. (Cancelled)

9. (Original) The machine according to claim 1, further including means for applying or activating an adhesive for sealing the at least one flap.

10. (Withdrawn) A machine for conveying a carton and at least partially folding a flap associated with a trailing end of the carton, comprising:

a rotatable wheel having at least one radially extending projection for engaging and at least partially folding the flap;

an overhead conveyor including at least one lug selectively movable to a depending position for engaging the trailing end of the carton once the flap is at least partially folded by the projection and conveying the carton in a conveying direction,

a takeaway conveyor adjacent to the overhead conveyor conveying at least one second lug selectively movable to a position for engaging and conveying the carton in a second direction along the path, said second direction being generally perpendicular to the first direction; and

means for folding the at least one flap while the carton is conveyed along the path by the takeaway conveyor;

whereby the partial folding by the wheel helps to prevent the flap from being damaged by the depending lug.

11. (Withdrawn) The machine according to claim 10, wherein the overhead conveyor includes a pair of parallel conveyor chains, each carrying a plurality of lugs independently and selectively movable to the depending position.

12. (Withdrawn) The machine according to claim 11, wherein the plurality of lugs

associated with each chain overlap with each other in the conveying direction.

13. (Withdrawn) The machine according to claim 10, wherein the rotatable wheel includes a plurality of radially-extending projections.

14. (Withdrawn) The machine according to claim 10, further including a sensor for sensing the location of the carton and generating a signal used to actuate the wheel to rotate and move the projection into engagement with the flap.

15. (Withdrawn) The machine according to claim 10, further including a support surface along which the carton is conveyed by the overhead conveyor.

16.-18. (Cancelled)

19. (Withdrawn) The machine according to claim 10, further including an infeed conveyor for feeding randomly received cartons to the overhead conveyor at a substantially constant speed.

20.-105. (Cancelled)

106. (Previously Presented) The machine according to claim 1, wherein a portion of the overhead conveyor overlies a portion of the takeaway conveyor.

107. (Previously Presented) An apparatus for conveying a carton including a lid having at least one flap, comprising:

a conveyor assembly including a support surface for supporting the carton and creating a conveying path having an L-shape in plan view, said conveyor assembly comprising an overhead conveyor overlying a first portion of the support surface extending in a first direction and including at least one first lug mounted to a first endless chain for selectively pivoting relative to the first endless chain from a retracted position above the support surface to a depending position in the conveying path for engaging a first end of the carton and conveying the carton along the first leg of the L-shaped path from an infeed end of the overhead conveyor to an outfeed end thereof, and a takeaway conveyor adjacent a second portion of the support surface and the outfeed end of the overhead conveyor for conveying at least one second lug mounted to a second endless chain for selectively pivoting relative to the second endless chain from a retracted position to an upstanding position for engaging and conveying the carton conveyed by the at least one first lug of the overhead conveyor to the outfeed end of the overhead conveyor in a second direction along the second portion of the support surface, said second direction being generally perpendicular to the first direction; and

a folder for folding the at least one flap while the carton is conveyed.

108. (Previously Presented) The apparatus of claim 107, wherein the overhead conveyor at least partially overlies the second portion of the support surface.

109. (Previously Presented) An apparatus for conveying a carton including a lid having at least one flap, comprising:

a support surface for supporting the carton and creating a conveying path having an L-shape in plan view by including a first portion extending in a direction generally

perpendicular to a second portion;

means for conveying the carton along the first portion of the support surface from a first end of the first portion of the support surface to a second end of the first portion of the support surface;

means for conveying the carton delivered to the second end of the first portion of the support surface along the second portion of the support surface, said means for conveying along the first portion of the support surface at least partially overlying the second portion of the support surface; and

means for folding the at least one flap while the carton is conveyed.

110. (Cancelled)

111. (Previously Presented) The apparatus of claim 109, wherein the means for conveying the carton along the first portion of the support surface comprises an overhead conveyor.

112. (Previously Presented) The apparatus of claim 109, wherein the means for conveying the carton along the second portion of the support surface comprises a takeaway conveyor.

113. (Previously Presented) A machine for conveying a carton including a lid having at least first and second flaps along a conveying path in a first, substantially horizontal plane, comprising:

a support surface for supporting the carton during movement along the

conveying path;

an overhead conveyor overlying a first portion of the support surface, said overhead conveyor including at least one first lug selectively movable from a retracted position to a depending position for engaging and conveying the carton in a first direction along the support surface;

a takeaway conveyor adjacent a second portion of the support surface for conveying at least one second lug selectively movable from a retracted position to an upstanding position for engaging and conveying the carton in a second direction along the path, said second direction being generally perpendicular to the first direction; and

a first folder for folding at least the first flap while the carton is conveyed along the first portion of the support surface by the overhead conveyor; and

a second folder for folding at least the second flap while the carton is conveyed along the second portion of the support surface by the takeaway conveyor.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None